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IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Robert P. Martin et al.

Confirmation No.: 7262

Application No.: 09/678,933

Examiner: Abdulhakim Nobahar

Filing Date: Oct. 4, 2000

Group Art Unit: 2132

Title: HIGHLY SECURE COMPUTER SYSTEM ARCHITECTURE FOR A HETEROGENEOUS
CLIENT ENVIRONMENT

Mail Stop Appeal Brief-Patents
Commissioner For Patents
PO Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL OF APPEAL BRIEF

Sir:

Transmitted herewith is the Appeal Brief in this application with respect to the Notice of Appeal filed on May 2, 2005.

The fee for filing this Appeal Brief is (37 CFR 1.17(c)) \$500.00.

(complete (a) or (b) as applicable)

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136(a) apply.

() (a) Applicant petitions for an extension of time under 37 CFR 1.136 (fees: 37 CFR 1.17(a)-(d) for the total number of months checked below:

() one month	\$120.00
() two months	\$450.00
() three months	\$1020.00
() four months	\$1590.00

() The extension fee has already been filled in this application.

(X) (b) Applicant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

Please charge to Deposit Account 08-2025 the sum of \$500.00. At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account 08-2025 pursuant to 37 CFR 1.25. Additionally please charge any fees to Deposit Account 08-2025 under 37 CFR 1.16 through 1.21 inclusive, and any other sections in Title 37 of the Code of Federal Regulations that may regulate fees. A duplicate copy of this sheet is enclosed.

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Respectfully submitted,

Robert P. Martin et al.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND
INTERFERENCES

In Re Application of:)
MARTIN, Robert P. et al.)
Attorney Docket 10004763-1)
Serial No. 09/678,933) Examiner: Abdulhakim
) Nobahar
Filing Date: October 4, 2000) Group Art Unit: 2132
For: HIGHLY SECURE COMPUTER)
SYSTEM ARCHITECTURE FOR)
A HETEROGENEOUS CLIENT)
ENVIRONMENT)

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This Appeal Brief is submitted in response to the final rejection of the claims mailed February 3, 2005. A Notice of Appeal was filed on May 2, 2005.

(1) REAL PARTY IN INTEREST

The real party in interest in the above-referenced patent application is Hewlett-Packard Development Company, LP, a limited partnership established under the laws of the State of Texas and having a principal place of business at 20555 S.H. 249 Houston, TX 77070, U.S.A. (hereinafter "HPDC"). HPDC is a Texas limited partnership and is a wholly-owned affiliate of Hewlett-Packard Company, a Delaware Corporation, headquartered in Palo Alto, CA. The general or managing partner of HPDC is HPQ Holdings, LLC.

(2) RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences currently known to appellants, appellants' legal representatives or the assignee, which will directly affect, or be directly affected by, or have a bearing on, the Board's decision.

(3) STATUS OF CLAIMS

Claims 1-22 were filed with the application. Claims 1-22 remain pending at the time of appeal, all of which stand rejected. The rejection of claims 1-22 is appealed.

(4) STATUS OF AMENDMENTS

No amendments were filed or entered subsequent to the final rejection mailed February 3, 2005

(5) SUMMARY OF THE CLAIMED SUBJECT MATTER

Appellants' invention as independently claimed is summarized and explained below with reference numerals, specification page numbers and drawing figure numbers indicating, in an exemplary manner, where the claim finds support in the specification and drawings.

1. A method of securely connecting a plurality of client computers (44, 46, 50) to computer resources (12) in a shared computer system, comprising:

associating each of said plurality of client computers (44, 46, 50) with at least one virtual private network connection, wherein said plurality of client computers (52, 54, 56, 64, 70) are remotely connected to at least one virtual private network termination device (60) in said shared computer system, said shared computer system comprising an application service provider, and wherein said at least one virtual private network connection is established by said

at least one virtual private network termination device (60) [Fig. 1; page 9, line 30 - page 10, line 7];
associating said at least one virtual private network connections with a plurality of virtual local area networks (82, 84, 86, 90); [Fig. 2; page 11, line 32 - page 12, line 10] and
associating at least one of said computer resources (12) in said shared computer system with each of said plurality of virtual local area networks (82, 84, 86, 90), whereby a domain (62, 66, 72) for each of said plurality of client computers (52, 54, 56, 64, 70) is extended to include said computer resources (12) in said application service provider and said plurality of client computer domains (62, 66, 72) are isolated from each other within said application service provider [Figs. 1, 2; page 14, lines 28-33].

16. A secure computer system, comprising:
a plurality of computer resources (212) [Fig. 3; page 17, lines 23-32];
at least one virtual local area network switch (282) electrically connected to said plurality of computer resources (212) [Fig. 3; page 19, lines 12-32];
at least one virtual private network termination device (260) electrically connected to said at least one virtual local area network switch (282), wherein said at least one virtual

local area network switch (282) is configurable to changeably connect a plurality of virtual private network connections in said at least one virtual private network termination device (260) to at least one of said plurality of computer resources (212) while isolating said plurality of virtual private network connections from one another [Fig. 3; page 19, lines 12-32]; and

a configuration engine (242) electrically connected to said at least one virtual local area network switch (282), said configuration engine (242) comprising computer readable program code for configuring said at least one virtual local area network switch (282) to changeably connect each of said plurality of virtual private network connections to at least one of said plurality of computer resources (12) while isolating said plurality of virtual private network connections from one another [Fig. 3; page 19, lines 12-32].

22. A secure computer system, comprising:
 - a plurality of computer resources (12) within an application service provider [Fig. 3; page 17, lines 23-32];
 - means for securely connecting each of a plurality of client computers (52, 54, 56, 64, 70) to a portion of said plurality of computer resources (12) in said application service provider while isolating said portion of said plurality

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of computer resources (12) from a second portion of said plurality of computer resources (12) [Figs. 1, 2; page 14, lines 28-33].

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

It is noted that, in the final rejection, claims 1-22 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of appellants' application serial no. 09/584,252. On May 2, 2005, however, after the date of the final rejection, appellants filed an express abandonment directed to application serial no. 09/584,252. Since application serial no. 09/584,252 is abandoned, it is believed that the provisional double patenting rejection raised in the final rejection is moot and, thus, does not represent an issue on appeal.

- A. Claims 1-22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over McNeill et al. (U.S. Patent No. 6,167,052) in view of Ahmed et al. (U.S. Patent No. 5,432,785).

(7) ARGUMENT

Relevant Law

Legal Basis for Obviousness under 35 §U.S.C. §103

The test for obviousness under 35 U.S.C. 103 is whether the claimed invention would have been obvious to those skilled in the art in light of the knowledge made available by the reference or references. *In re Donovan*, 184 USPQ 414, 420, n. 3 (CCPA 1975). It requires consideration of the entirety of the disclosures of the references. *In re Rinehart*, 189 USPQ 143, 146 (CCPA 1976). All limitations of the Claims must be considered. *In re Boe*, 184 USPQ 38, 40 (CCPA 1974). In making a determination as to obviousness, the references must be read without benefit of applicant's teachings. *In re Meng*, 181 USPQ 94, 97 (CCPA 1974). In addition, the propriety of a Section 103 rejection is to be determined by whether the reference teachings appear to be sufficient for one of ordinary skill in the relevant art having the references before him to make the proposed substitution, combination, or other modifications. *In re Lintner*, 173 USPQ 560, 562 (CCPA 1972).

A basic mandate inherent in Section 103 is that a piecemeal reconstruction of prior art patents shall not be the basis for a holding of obviousness. It is impermissible within the framework of Section 103 to pick and choose from any one reference only so

much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. *In re Kamm*, 172 USPQ 298, 301-302 (CCPA 1972). Phrased somewhat differently, the fact that inventions of the references and of applicant may be directed to concepts for solving the same problem does not serve as a basis for arbitrarily choosing elements from references to attempt to fashion applicant's claimed invention. *In re Donovan*, 184 USPQ 414, 420 (CCPA 1975).

It is also clearly established in the case law that a change in the mode of operation of a device which renders that device inoperative for its stated utility as set forth in the cited reference renders the reference improper for use to support an obviousness-type rejection predicated on such a change. See, e.g. *Diamond International Corp. v. Walterhoefer*, 289 F.Supp. 550, 159 USPQ 452, 460-61 (D.Md. 1968); *Ex parte Weber*, 154 USPQ 491, 492 (Bd.App. 1967). In addition, any attempt to combine the teaching of one reference with that of another in such a manner as to render the invention of the first reference inoperative is not permissible. See, e.g., *Ex parte Hartmann*, 186 USPQ 366 (Bd.App. 1974); and *Ex parte Sternau*, 155 USPQ 733 (Bd.App. 1967).

In the case of *In re Wright*, 6 USPQ 2d 1959 (CAFC 1988), the CAFC decided that the Patent Office had improperly combined references which did not suggest the properties and results of the

applicant's invention nor suggest the claimed combination as a solution to the problem which applicant's invention solved.

The CCPA reached this conclusion after an analysis of the prior case law, at p. 1961:

We repeat the mandate of 35 U.S.C. 103: it is the invention as a whole that must be considered in obviousness determinations. The invention as a whole embraces the structure, its properties, and the problem it solves. See, e.g., *Cable Electric Products, Inc. v. Genmark, Inc.*, 770 F.2d 1015, 1025, 226 USPQ 881, 886 (Fed. Cir. 1985) ("In evaluating obviousness, the hypothetical person of ordinary skill in the pertinent art is presumed to have the 'ability to select and utilize knowledge from other arts reasonably pertinent to [the] particular problem' to which the invention is directed"), quoting *In re Antle*, 444 F.2d 1168, 1171-72, 170 USPQ 285, 287-88 (CCPA 1971); *In re Antonie*, 559 F.2d 618, 619, 195 USPQ 6, 8 (CCPA 1977) ("In delineating the invention as a whole, we look not only in the claim in question... but also to those properties of the subject matter which are inherent in the subject matter and are disclosed in the Specification") (emphasis in original).

The determination of whether a novel structure is or is not "obvious" requires cognizance of the properties of that structure and the problem which it solves, viewed in light of the teachings of the prior art. See, e.g., *In re Rinehart*, 531 F.2d 1048, 1054, 189 USPQ 143, 149 (CCPA 1976) (the particular problem facing the inventor must be considered in determining obviousness); see also *Lindemann Maschinenfabrik GmbH v. American Hoist and Derrick Co.*, 730 F.2d 1452, 1462, 221 USPQ 481, 488 (Fed. Cir. 1984) (it is error to focus "solely on the product created, rather than on the obviousness or notoriety of its creation") (quoting *General Motors Corp. v. U.S. Int'l Trade Comm'n*, 687 F.2d 476, 483, 215 USPQ 484, 489 (CCPA 1982), cert. denied, 459 U.S. 1105 (1983)).

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Thus the question is whether what the inventor did would have been obvious to one of ordinary skill in the art attempting to solve the problem upon which the inventor was working. *Rinehart*, 531 F.2d at 1054, 189 USPQ at 149; see also *In re Benno*, 768 F.2d 1340, 1345, 226 USPQ 683, 687 (Fed. Cir. 1985) ("appellant's problem" and the prior art present different problems requiring different solutions").

A reference which teaches away from the applicant's invention may not properly be used in framing a 35 U.S.C. 103 rejection of applicant's claims. See *United States v. Adams*, 148 USPQ 429 (Sup. Ct. 1966).

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Argument re Issue A

Claims 1-22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over McNeill et al. (U.S. Patent No. 6,167,052) in view of Ahmed et al. (U.S. Patent No. 5,432,785). Appellants respectfully assert, for at least the reasons advanced below, that claims 1-22 are not unpatentable over McNeill et al. in view of Ahmed et al.

Claims 1, 4, 5 and 9-15

Appellants' independent claim 1 recites the following:

A method of securely connecting a plurality of client computers to computer resources in a shared computer system, comprising:

associating each of said plurality of client computers with at least one virtual private network connection, wherein said plurality of client computers are remotely connected to at least one virtual private network termination device in said shared computer system, said shared computer system comprising an application service provider, and wherein said at least one virtual private network connection is established

by said at least one virtual private network termination device;

associating said at least one virtual private network connections with a plurality of virtual local area networks; and

associating at least one of said computer resources in said shared computer system with each of said plurality of virtual local area networks, whereby a domain for each of said plurality of client computers is extended to include said computer resources in said application service provider and said plurality of client computer domains are isolated from each other within said application service provider.

Appellants respectfully assert, for the reasons advanced below, that the Examiner's rejection is improper and that a *prima facie* case of obviousness has not been established.

I. Legal Requirements for a *Prima Facie* Case of Obviousness

MPEP Section 706.02(j) sets forth the following regarding the establishment of a *prima facie* case:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.

The MPEP, thus, generally sets forth three requirements for establishing a *prima facie* case of obviousness:

1. there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings;
2. there must be a reasonable expectation of success; and
3. the prior art reference (or references when combined) must teach or suggest all the claim limitations;

In addition, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.

II. A *Prima Facie* Case of Obviousness has not been Established

Appellants respectfully assert that a *prima facie* case has not been established for at least the following reasons which are individually discussed in further detail below:

- A) There is no motivation to combine the McNeill et al. and Ahmed et al. references as proposed by the Examiner; and
- B) Even the (improper) combination of references proposed by the Examiner fails to teach or suggest all of appellants' claim limitations.

A) There is No Motivation to Combine

Appellants respectfully assert that the Examiner has failed to establish a *prima facie* case of obviousness because there is no suggestion or combine the reference teachings as proposed by the Examiner. The Examiner states the following on page 9 of the final rejection regarding the instant rejection:

McNeil, however, does not expressly disclose that the clients who are remotely connecting (i.e., over a public network

such as Internet) to the stations in VLANs at least through one switch, are associated with at least one virtual private network (VPN) connection.

The Examiner, thus, admits that the primary reference, McNeill et al., fails to disclose or suggest “associating each of said plurality of client computers with at least one virtual private network connection” as recited in appellants’ claim 1, but takes the position, that this limitation would be obvious in view of the Ahmed reference. Appellants respectfully assert that the Examiner’s position is improper because there is no motivation to combine the McNeill et al. and Ahmed et al. references as proposed by the Examiner. As noted above, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. MPEP §706.02(j).

The Examiner has provided no basis for a teaching or suggestion in the prior art for combining elements as proposed in the final rejection. The Examiner’s argument regarding obviousness is as follows:

It would have been obvious to one skilled in the art, at the time the invention was made, to implement the VPN connectivity for each client through at least one switch port to a remote location as taught in Ahmed in the system of McNeil, because *it would provide protected virtual private channel connections (corresponding to the recited a one to*

one correspondence) between clients and computer resources (i.e., isolating the VPNs connections from one another) (col. 3, lines 9-26).

(final rejection, page 10, emphasis added)

The language italicized above represents the Examiner's only explanation regarding a teaching or suggestion to combine. This language, however, is simply an *unsupported statement* made by the Examiner. In order to establish a *prima facie* case, a teaching or suggestion to combine must be found *in the prior art*. See, e.g., *Arkie Lures, Inc. v. Gene Larew Tackle, Inc.*, *supra*. The Examiner has not referred to any prior art in support of his position that a motivation or suggestion to combine exists but, instead, apparently expects his unsupported conclusory statement to suffice. Such an unsupported statement, however, cannot constitute the evidence required to establish existence of a motivation or suggestion to combine:

Whether the Board relies on an express or an implicit showing [of a motivation, suggestion or teaching to modify the teachings of a reference], it must provide particular findings related thereto.... Broad conclusory statements standing alone are not "evidence".

In re Kotzab, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000) (citing *In re Dembiczak*, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999))

Accordingly, the Examiner's statement does not constitute a showing of a teaching or suggestion to combine. At the very least,

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an examiner must prove that some motivation or suggestion to combine can be found in knowledge generally available to one of ordinary skill in the art (see, MPEP 706.02(j) reproduced above). In the present case, however, the Examiner provides no evidence that the requisite knowledge is generally available but, instead, attempts to rely on personal opinion. Such personal opinion does not represent an adequate substitute for evidence.

In short, it appears that the Examiner's proposed combination of McNeill et al. and Ahmed et al. is based solely on hindsight derived from appellants' specification. The use of hindsight in this manner is clearly prohibited by the relevant case law:

Obviousness can not be established by hindsight combination to produce the claimed invention. *In re Gorman*, 933 F.2d 982, 986, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991). As discussed in *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1985), it is the prior art itself, and not the applicant's achievement, that must establish the obviousness of the combination.

In re Dance, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998)

Obviousness may not be established using hindsight. See *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1551, 220 USPQ 303, 312-13 (Fed. Cir. 1983).

Kahn v. General Motors Corp., 45 USPQ2d 1608, 1613
(Fed. Cir. 1998)

B) Even the (improper) combination of references proposed by the Examiner fails to teach or suggest all of appellants' claim limitations.

Appellants further assert that the Examiner's rejection is improper because the McNeill et al. and Ahmed et al references, even when combined as (improperly) proposed by the Examiner, fail to teach or suggest all the claim limitations.

Once again, appellants' claim 1 recites the following:

A method of securely connecting a plurality of client computers to computer resources in a shared computer system, comprising:

associating each of said plurality of client computers with at least one virtual private network connection, wherein said plurality of client computers are remotely connected to at least one virtual private network termination device in said shared computer system, said shared computer system comprising an application service provider, and wherein said at least one virtual private network connection is established

by said at least one virtual private network termination device;

associating said at least one virtual private network connections with a plurality of virtual local area networks; and

associating at least one of said computer resources in said shared computer system with each of said plurality of virtual local area networks, whereby a domain for each of said plurality of client computers is extended to include said computer resources in said application service provider and said plurality of client computer domains are isolated from each other within said application service provider.

(emphasis added)

Although McNeill does disclose a plurality of VLANS (see McNeill, FIG. 2), they all appear in a single domain, the "Layer 2 Domain" shown in McNeill, FIG. 2. McNeill therefore does not disclose or suggest the claimed shared computer system in which multiple client domains are extended and isolated. Similarly, Ahmed does not disclose a shared computer system in which multiple client domains are extended and isolated. For example, Ahmed et al. FIG. 4 illustrates multiple customers that share a

virtual path link 58 and a broadband switching system 61, but clearly shows that the customer locations are isolated at each end of the connection, rather than extending into a shared computer system. Thus, even the Examiner's proposed (improper) combination of references fails to teach or suggest all of the limitations of appellants' claim 1.

Claims 2-15 are allowable at least as ultimately depending from allowable base claim 1. Claims 3, 6, 7 and 8 are allowable on further independent grounds for the reasons discussed below. For purposes of this appeal, dependent claims 4, 5, and 9-15 stand or fall with independent claim 1.

Claim 3

Dependent claim 3 recites the following:

The method of claim 1, wherein a plurality of said at least one virtual private network connections is uniquely associated with one of said plurality of virtual local area networks.

Neither McNeill et al. nor Ahmed et al. disclose or suggest multiple private network connections connected to a single virtual

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local area network. Accordingly, the rejection of claim 3 is improper.

Claim 6

Dependent claim 6 recites the following:

The method of claim 4, further comprising said configuration engine reading computer requirements from at least one client.

The Examiner states the following on page 11 of the final rejection regarding claim 6:

McNeil [sic] discloses that connection for client to access resources on the network is restricted and provided based on some criteria (citations omitted).

The Examiner may be correct in asserting that McNeill et al. discloses a connection restricted or provided based on *some criteria*. McNeill et al. does not, however, disclose or suggest that a configuration engine reads computer requirements *from the client* as recited in claim 6. Ahmed et al. does nothing to remedy

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this inadequacy of McNeill et al. Accordingly, the rejection of claim 6 is improper.

Claim 7

Dependent claim 7 recites the following:

The method of claim 6, further comprising said configuration engine calculating an optimum allocation of said plurality of computer resources to meet said computer requirements of said at least one client.

The Examiner states the following on page 12 of the final rejection regarding claim 7

McNeil [sic] discloses that connection for client to access resources on the network is restricted and provided based on some criteria (citations omitted).

Again, even if Examiner is correct in asserting that McNeill et al. discloses a connection restricted or provided based on *some criteria*, McNeill et al. clearly does not disclose or suggest that a configuration engine calculates “an optimum allocation of ... resources” to meet client needs as recited in claim 7. Ahmed et

al. does nothing to remedy this inadequacy of McNeill et al.
Accordingly, the rejection of claim 7 is improper.

Claim 8

Dependent claim 8 recites the following:

The method of claim 4, further comprising said configuration engine configuring said at least one virtual local area network switch to connect at least two of said plurality of client computers to a same one of said plurality of virtual local area networks.

Neither McNeill et al. nor Ahmed et al. disclose or suggest multiple client computers connected to a single virtual local area network. Accordingly, the rejection of claim 8 is improper.

Claims 16, 20 and 21

Appellants' claim 16 recites the following:

A secure computer system, comprising:
a plurality of computer resources;

at least one virtual local area network switch
electrically connected to said plurality of computer
resources;

at least one virtual private network termination device
electrically connected to said at least one virtual local area
network switch, wherein said at least one virtual local area
network switch is configurable to changeably connect a
plurality of virtual private network connections in said at least
one virtual private network termination device to at least one
of said plurality of computer resources while isolating said
plurality of virtual private network connections from one
another; and

**a configuration engine electrically connected to
said at least one virtual local area network switch, said
configuration engine comprising computer readable
program code for configuring said at least one virtual
local area network switch to changeably connect each
of said plurality of virtual private network connections to
at least one of said plurality of computer resources
while isolating said plurality of virtual private network
connections from one another.**

(emphasis added)

Appellants respectfully assert that the Examiner's rejection of claim 16 is improper because a *prima facie* case of obviousness has not been established. Specifically, appellants assert that a *prima facie* case has not been established because there is no motivation to combine the McNeill et al. and Ahmed et al. references as proposed by the Examiner. Appellants hereby reassert the motivation to combine arguments advanced above with respect to the rejection of claim 1.

Appellants further assert that a *prima facie* case has not been established because even the (improper) combination of references proposed by the Examiner fails to teach or suggest all of appellants' claim limitations.

Although McNeill does disclose a plurality of VLANS (see McNeill, FIG. 2), they all appear in a single domain, the "Layer 2 Domain" shown in McNeill, FIG. 2. McNeill therefore does not disclose or suggest the claimed configuration engine that configures a VLAN switch to changeably connect each of a plurality of VPN connections to a plurality of computer resources while isolating the VPN connections from one another. Ahmed et al. fails to remedy this inadequacy.

Claims 17-21 are allowable at least as ultimately depending from allowable base claim 16. Claims 17-19 are allowable on further independent grounds for the reasons discussed below. For

purposes of this appeal, dependent claims 20 and 21 stand or fall with independent claim 16.

Claim 17

Dependent claim 17 recites the following:

The secure computer system of claim 16, wherein said computer readable program code in said configuration engine further comprises code for a graphical user interface to manually configure said virtual local area network switch.

The Examiner states the following on page 13 of the final rejection regarding claim 17:

McNeil [sic] discloses that the management station includes software and provides a graphical user interface for network administrator to configure the VLAN (see, for example, abstract; Fig. 1; col. 4, lines 38-41; col. 9, lines 35-43).

The portions of McNeill et al. referenced by the Examiner are reproduced below.

A network includes a number of domains ("layer 2 domains") interconnected by routers. Within each domain,

traffic is forwarded based on MAC addresses (or other data link layer addresses). The routers route traffic based on IP addresses or other network layer addresses. To restrict network connectivity, a network administrator specifies connectivity groups each of which is a group of sub-networks that are allowed to communicate. The administrator also specifies which entities (MAC addresses, ports, or user names) belong to the same group. The entities may be in the same or different domains. A computer system automatically creates access control lists for routers to allow or deny traffic as specified by the administrator. The computer system also creates VLANs to allow or deny traffic as specified, wherein each VLAN is part of a domain or is a whole domain. Connectivity within each domain is restricted by VLANs and connectivity between domains is restricted by access control lists.

(abstract)

Management station 124M includes storage 192 for storing programs and data and also includes user interface devices 194 such as a keyboard, a screen, and/or other interface devices.

(col. 4, lines 38-41)

Management station 124M instructs each router 130 to delete any existing access control lists and to substitute the new access control lists.

Some embodiments allow the network administrator to insert additional commands into the access control list. Thus, in some embodiments, before step M50, the administrator can specify for each subnet additional terms to be inserted into the access control list for the corresponding interface(s). More particularly, the administrator can specify....

(col. 9, lines 35-43)

Although a user interface is discussed in some of the passages cited by the Examiner, McNeill et al. does not disclose a graphical user interface as recited in claim 17. Accordingly, the rejection of claim 17 is improper.

Claim 18

Dependent claim 18 recites the following:

The secure computer system of claim 16, wherein said computer readable program code in said configuration engine further comprises code for automatically configuring said virtual local area network switch.

McNeill et al. does not disclose a management station that *automatically* configures the network switch as recited in claim 18. McNeill et al. specifically teaches that a network administrator enters information defining traffic for a connectivity group:

To configure the domains, a network administrator enters for each connectivity group information defining traffic that belongs to the group.

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(McNeill et al., col. 2, lines 37-39)

Claim 19

Dependent claim 19 recites the following:

The secure computer system of claim 16, wherein said computer readable program code in said configuration engine further comprises code for reading client computer requirements across said plurality of virtual private network connections.

The Examiner states the following on page 11 of the final rejection regarding the rejection of claim 19:

McNeil [sic] discloses that connection for client to access resources on the network is restricted and provided based on some criteria (citations omitted).

Even if the Examiner is correct in asserting that McNeill et al. discloses a connection restricted or provided based on *some criteria*, McNeill et al. does not disclose or suggest “program code ... for reading *client computer requirements*” as recited in claim 19.

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Ahmed et al. does nothing to remedy this inadequacy of McNeill et al. Accordingly, the rejection of claim 19 is improper.

Claim 22

Appellants' claim 22 recites the following:

A secure computer system, comprising:
a plurality of computer resources within an application service provider;
means for securely connecting each of a plurality of client computers to a portion of said plurality of computer resources in said application service provider while isolating said portion of said plurality of computer resources from a second portion of said plurality of computer resources."

Appellants respectfully assert that the Examiner's rejection of claim 22 is improper because a *prima facie* case of obviousness has not been established. Specifically, appellants assert that a *prima facie* case has not been established because there is no motivation to combine the McNeill et al. and Ahmed et al.

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references as proposed by the Examiner. Appellants hereby reassert the motivation to combine arguments advanced above with respect to the rejection of claim 1.

Appellants further assert that a *prima facie* case has not established because even the (improper) combination of references proposed by the Examiner fails to teach or suggest all of the limitations of appellants' claim 22. The cited references do not disclose a plurality of computer resources within an application service provider, nor means for securely connecting client computers to resources in the application service provider while isolating the clients.

For the reasons set forth above, appellants respectfully assert that all of the claims are allowable and that, accordingly, all of the rejections should be reversed.

Respectfully submitted,
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(8) CLAIMS APPENDIX

1. A method of securely connecting a plurality of client computers to computer resources in a shared computer system, comprising:

associating each of said plurality of client computers with at least one virtual private network connection, wherein said plurality of client computers are remotely connected to at least one virtual private network termination device in said shared computer system, said shared computer system comprising an application service provider, and wherein said at least one virtual private network connection is established by said at least one virtual private network termination device;

associating said at least one virtual private network connections with a plurality of virtual local area networks; and

associating at least one of said computer resources in said shared computer system with each of said plurality of virtual local area networks, whereby a domain for each of said plurality of client computers is extended to include said computer resources in said application service provider and said plurality of client computer domains are isolated from each other within said application service provider.

2. The method of claim 1, wherein each of said at least one virtual private network connections is uniquely associated with one of said plurality of virtual local area networks, so that a one to one correspondence exists between said at least one virtual private network connection and said plurality of virtual local area networks.
3. The method of claim 1, wherein a plurality of said at least one virtual private network connections is uniquely associated with one of said plurality of virtual local area networks.
4. The method of claim 1, further comprising a configuration engine in said shared computer system configuring at least one virtual local area network switch to establish said plurality of virtual local area networks.
5. The method of claim 1, further comprising a configuration engine in said shared computer system configuring said at least one virtual private network termination device to establish said at least one virtual private network connection.
6. The method of claim 4, further comprising said configuration engine reading computer requirements from at least one client.

7. The method of claim 6, further comprising said configuration engine calculating an optimum allocation of said plurality of computer resources to meet said computer requirements of said at least one client.
8. The method of claim 4, further comprising said configuration engine configuring said at least one virtual local area network switch to connect at least two of said plurality of client computers to a same one of said plurality of virtual local area networks.
9. The method of claim 1, wherein at least one of said plurality of client computers is connected to said shared computer system across a dedicated line.
10. The method of claim 1, wherein at least one of said plurality of client computers is connected to said shared computer system across the Internet.
11. The method of claim 10, wherein at least one of said plurality of client computers is connected to said shared computer system with a modem.

12. The method of claim 10, wherein at least one of said plurality of client computers is connected to said shared computer system with a broadband connection.

13. The method of claim 1, said shared computer system further comprising computer readable program code for authenticating client computer identification, said method further comprising executing said computer readable program code to authenticate client computer identification before associating each of said plurality of client computers with at least one virtual private network connection.

14. The method of claim 1, said shared computer system further comprising at least one firewall, said method further comprising configuring said at least one firewall to accept data from each of said plurality of client computers.

15. The method of claim 14, further comprising a configuration engine in said shared computer system configuring said at least one firewall to accept data from each of said plurality of client computers.

16. A secure computer system, comprising:
a plurality of computer resources;

at least one virtual local area network switch electrically connected to said plurality of computer resources;

at least one virtual private network termination device electrically connected to said at least one virtual local area network switch, wherein said at least one virtual local area network switch is configurable to changeably connect a plurality of virtual private network connections in said at least one virtual private network termination device to at least one of said plurality of computer resources while isolating said plurality of virtual private network connections from one another; and

a configuration engine electrically connected to said at least one virtual local area network switch, said configuration engine comprising computer readable program code for configuring said at least one virtual local area network switch to changeably connect each of said plurality of virtual private network connections to at least one of said plurality of computer resources while isolating said plurality of virtual private network connections from one another.

17. The secure computer system of claim 16, wherein said computer readable program code in said configuration engine further comprises code for a graphical user interface to manually configure said virtual local area network switch.

18. The secure computer system of claim 16, wherein said computer readable program code in said configuration engine further comprises code for automatically configuring said virtual local area network switch.

19. The secure computer system of claim 16, wherein said computer readable program code in said configuration engine further comprises code for reading client computer requirements across said plurality of virtual private network connections.

20. The secure computer system of claim 16, further comprising at least one firewall connected to said plurality of virtual private network connections.

21. The secure computer system of claim 16, further comprising computer readable program code for authenticating identification of client computers connected to said plurality of virtual private network connections.

22. A secure computer system, comprising:
a plurality of computer resources within an application service provider;
means for securely connecting each of a plurality of client computers to a portion of said plurality of computer resources in said application service provider while isolating

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said portion of said plurality of computer resources from a
second portion of said plurality of computer resources.